

REMARKS

In view of the above amendment, Applicants believe the pending application is in condition for allowance. Claims 1-14 and 25-27 are now present in this application, of which claims 1, 11, and 27 are independent. By this amendment, claims 1-11 and 25 have been amended and claim 27 has been added. Reconsideration of this application, as amended, is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1, 2, 8-11, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '550 in view of Nakamura in further view of Morton and further in view of Jung, Jr. or Allen; claims 3-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '550 in view of Nakamura in view of Morton and in view of Jung, Jr. or Allen and further in view of Edwards or Lund; claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '550 in view of Nakamura in view of Morton and in view of Jung, Jr. or Allen and further in view of Babuin or Kovich; and claims 25 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '550 in view of Nakamura in view of Morton and in view of Jung, Jr. or Allen and further in view of JP '084. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 1 has been amended to recite a combination of elements in a drum laundry machine including a laundry tub, a laundry drum located inside the laundry tub, a water supply tube connected to a water supply valve, a steam generator provided in the laundry machine, and a controller. The steam generator includes a container provided with a water supply port configured to be connected to the water supply tube of the laundry machine to receive water and a steam exhaustion port configured to be connected to a steam supply tube of the laundry machine to supply steam into the laundry tub of the laundry machine to perform a laundry course, a heater to heat the water supplied into the container, and a drain unit having an inlet to

drain water which remains inside the container. The controller is configured to operate the drain unit after supplying steam into the laundry tub, thereby maintaining cleanliness of the steam generator.

Similarly, while not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 11 has been amended to recite a combination of elements in a drum laundry machine including a laundry tub, a laundry drum located inside the laundry tub, a water supply tube connected to a water supply valve, and a steam generator. The steam generator includes a container provided with a water supply port connected to the water supply tube to receive water and a steam exhaustion port to exhaust steam, a heater to heat the water supplied into the container, and a drain unit to drain water which remains inside the container. The drum laundry machine also includes means for spraying the exhausted steam directly into the laundry drum to perform a laundry course, the means being connected to the steam exhaustion port of the steam generator, and a controller to control the drum laundry machine to treat laundry in the laundry drum, the controller configured to control the heater to generate steam and to control the water supply unit to supply water into the container until a water level of the container reaches a predetermined level, thereby operating the drain unit after supplying steam into the laundry drum to maintain cleanliness of the steam generator.

Applicants respectfully submit that these combinations of elements as set forth in independent claims 1 and 11 are not disclosed or made obvious by the prior art of record, including EP '550, Nakamura, Morton, Jung, Jr. and Allen.

The Examiner alleges that it is well known that if it is desired to drain all fluid from a system, to locate a drain inlet at the bottom of a tank or receptacle, such as in a common sink. In addition, the Examiner alleges that Morton discloses a sealed humidifier with a drain pipe 34 with exit 40 and Allen discloses a drain valve 132 that can be used in a steam generating system for draining water from it.

Applicants respectfully submit that those references cited for teaching a drain mechanism are manually operated drain mechanisms, including the common sink. Furthermore, each of those references is cited for draining water out of a main system.

In contrast, the claimed invention is provided to mainly drain water out of the steam generator (sub system) and not the drum laundry machine (main system). Because the steam generator is part of the drum laundry machine, it is difficult to drain water from just the steam generator. For this reason, the claimed invention provides a laundry machine in which draining water can be performed automatically.

In particular, independent claim 1 is directed to a drum laundry machine that includes “a controller to operate the drain unit after supplying steam into the tub, thereby maintaining cleanliness of the steam generator.” None of the cited references discloses a drain unit that is operated by a controller to achieve this purpose after the specified point in time to automatically drain the water. Specifically, none of the references disclose a drain unit controlled by a controller.

Independent claim 11 is also directed to a drum laundry machine than includes “a controller to control the drum laundry machine to treat laundry in the laundry drum, the controller configured to control the heater to generate steam and to control the water supply valve to supply water into the container until a water level of the container reaches a predetermined level, thereby operating the drain unit after supplying steam into the laundry drum to maintain cleanliness of the steam generator.” None of the cited references discloses a controller that controls the water supply unit to supply water into the container until a water level of the container reaches a predetermined level, at which time the drain unit is operated. Specifically, none of the cited references discloses a water level control to automatically drain water remaining in the steam generator where the controller causes the water level in the container to reach a water level, thereby activating the drain unit.

Furthermore, as noted repeatedly by Applicants, the drain pipe 34 and the exit 40 of Morton are only for limiting the water level inside the container. Therefore, if one of ordinary skill in the art were to modify a steam generator to include a drain pipe as taught by Morton and to place the exit 40 on or near the bottom as proposed by the Examiner, the water level would never reach higher than exit 40 such that the water level would not be high enough to cover the heating element of the steam generator. In other words, such a modification would be against the teachings of Morton which is provided to specifically keep the heating element 26 covered but to limit the amount of water inside the container.

None of the other references were cited for teachings to overcome the above-noted deficiencies.

Applicants respectfully submit that the combinations of elements as set forth in independent claims 1 and 11 are not disclosed or made obvious by the prior art of record, including EP '550, Nakamura, Morton, Jung, Jr. and Allen, for the reasons explained above. Accordingly, reconsideration and withdrawal of these rejections are respectfully requested.

With regard to dependent claims 2-10, 12-14, 25, and 26, Applicants submit that these claims depend, either directly or indirectly, from independent claim 1 or 11, which are allowable for the reasons set forth above, and therefore these claims are allowable based on their dependence from claim 1 or 11, as well as for their additionally recited subject matter. Reconsideration and allowance thereof are respectfully requested.

Claim 27

Claim 27 has been added for the Examiner's consideration.

Independent claim 27 recites a combination of elements in a drum laundry machine including a laundry tub, a laundry drum located inside the laundry tub, a water supply tube connected to a water supply valve, and a steam generator provided in the laundry machine. The steam generator includes a container provided with a water supply port connected to the water supply tube to receive water, and a steam exhaustion port to exhaust steam, a heater to heat the water supplied into the container, and a drain unit to drain water which remains inside the container. The drum laundry machine also includes means for spraying the exhausted steam to the laundry drum, the means connected to the steam exhaustion port of the steam generator and a controller to control the drum laundry machine to treat laundry in the drum, the controller configured to control the heater to generate the steam. The controller is configured to control the water supply valve to supply water into the container until a water level of the container reaches a predetermined level and then operate the drain unit to drain almost all the water in the container, thereby maintaining cleanliness of the steam generator.

Applicants respectfully submit that this combination of elements as set forth in independent claim 27 is not disclosed or made obvious by the prior art of record.

Consideration and allowance of claim 27 is respectfully requested.

Additional Cited References

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

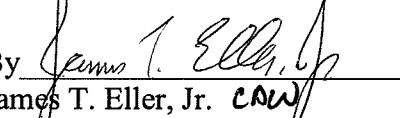
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Chad D. Wells, Registration No. 50,875, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 
James T. Eller, Jr. *CAW*
Registration No.: 39,538
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicants